




MEMORANDUM

Missouri Department of Transportation Design General Headquarters

TO: All General Headquarters and District Offices

FROM: Diane Heckemeyer 
State Design Engineer

DATE: January 13, 2003

SUBJECT: Design
Development Manual Letter No. 7, 2002
Project Development Manual Revisions

Questions concerning the Project Development Manual revisions should be directed to General Headquarters, Design Standards Section, Dan Tschirgi (573) 526-2924 or Bruce Green (573-751-9248).

NOTE	EXPLANATION
1	The following revisions are effective January 1, 2003.

ITEM	DESCRIPTION OF REVISION
Volume I Table of Contents	Revision dates changed for appropriate sections.
Chapter I Table of Contents	Made revisions to correspond to Section revisions.
Section 1-02	A new Subsection 1-02.5 was added, from the report “Implementation of Recommendations for Project Scoping.” Please read carefully. More extensive changes to the PDM will be required to fully describe the scoping process. There are also procedures and processes described in the PDM that conflict with this new process. These are mainly associated with the programming and estimating of projects. Where a conflict exists the procedures described in the Project Scoping report shall take precedence.
Figure 1-02.1	The GHQ Design estimators, using price history data, have revised the roadway and interchange construction cost-per-mile figure.
Chapter II Table of Contents	Made revisions to correspond to Section revisions.
Section 2-01	Added new Subsection 2-01.8 to state that all 3R and 4R projects must have logical termini. New Subsections 2-01.13 and 2-01.14 were added, from the report “Implementation of Recommendations for Project Scoping.” Please read carefully. The Project Scoping Checklists and the Draft Project Scoping

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Section 2-01 (cont.)	Memorandum will be placed in the Project Scoping category of design forms in the near future.
Section 2-02	Subsection 2-02.2(1) was revised to emphasize that logical termini for each of the alternatives need to be included when establishing the study area limits.
Section 2-06	A new Subsection 2-06.9 was added, from the report “Implementation of Recommendations for Project Scoping.” Please read carefully. The Project Scoping Memorandum will be placed in the Project Scoping Category of design forms in the near future.
Chapter IV Table of Contents	Made revisions to correspond to Section revisions.
Section 4-02	Subsection 4-02.9 was renamed from “Right of Way Markers” to “Location Survey Monuments,” and substantially revised to fully implement procedures for marking right of way. Please read carefully.
Section 4-03	Subsection 4-03.1(2) regarding project limits was revised to state that all projects have logical termini, including level course, pavement marking, etc.
Section 4-08	Subsection 4-08.2 was revised to state that estimated quantities for clearing and grubbing should be listed on the Summary of Quantities 2B sheet, even though clearing and grubbing is paid for as a lump sum item.
Section 4-09	In Subsection 4-09.6, the reference to “guard cable” as a substitute for fencing was changed to “one-strand access restraint cable.” A statement was added to Subsection 4-09.27 to emphasize that level course projects must have logical termini. In Subsection 4-09.4(2), the reference to a special sheet for stream crossings was removed, as this standard is contained in Standard Plan 806.10 Sheet 7/7. The reference to the “Temporary Stream Crossing” JSP was revised to refer to contractor equipment crossings.
Volume II Table of Contents	Revision dates changed for appropriate sections.
Figure 6-03.9	The option to place Type 1 or 2 base outside the edge of shoulder has been eliminated. Rock Base is to be used in this area with an appropriate particle size as necessary to meet the grade. The small amount of Type 1 or 2 aggregate being used was not cost effective.
Section 6-05	Subsection 6-05.6 was clarified to state that the 10-year projected traffic applies to resurfacing pavement structure and shoulder type, but not to other aspects that would use 20-year traffic projections. In Subsection 6-05.13 the reference to the special provision titled “Bituminous Pavement Cold Millings Substitution for Aggregate Base” was removed as the provision has been added to the general special provisions.

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ITEM	DESCRIPTION OF REVISION
Chapter VIII Table of Contents	Made revisions to correspond to Section revisions.
Figure 8-01.4	A typical lighting plan for roundabouts was added to this figure and the title of the figure was revised to reference roundabouts.
Section 8-02	Signal warrants in Section 8-02.3 have been revised in accordance with the Manual on Uniform Traffic Control Devices Millenium Edition. Please read carefully. Warrants 1, 2 and 8 have been combined into Warrant 1 – Eight-Hour Vehicular Volume. Warrants named “Progressive Movement” and “Accident” have been renamed to “Coordinated Signal System” and “Crash Experience.” All warrants are numbered to match the MUTCD.
Figure 8-02.2	This figure has been revised to match the traffic signal warrants as described in Subsection 8-02.3.
Figure 8-04.17	The Type 1 channelizer/markers in the figure were removed, as the item was previously made obsolete. Tubular markers are used instead of the Type 1 channelizer/markers.
Section 9-10	Subsection 9-10.7 has been revised to differentiate between Type 1 floodgates for concrete pipes, and Type 2 floodgates for metal pipes. The procedure for design of concrete pipe in fills over 50 feet has been clarified in Subsection 9-10.9(4). A JSP is necessary and GHQ Bridge will provide the D-load for insertion into the JSP. An additional bullet point has been added to Subsection 9-10.13(1) to clarify that the minimum clearance from the top of hydraulic structures to the bottom of bases is 6 inches. This applies to all types of bases. Terminology in Subsection 9-10.16 was clarified for removal of box culvert concrete. Pipes, drop in lets, etc. are not included in box culvert removal pay items.
Figure 9-10.2 & Figure 9-10.5	These figures were updated to be consistent with Standard Plan 703.38. The bottom slab of box culverts are always removed in sections cut for extensions or modifications. Also, the limits of class 3 excavation were corrected in Figure 9-10.5 to be consistent with Sec 206 of the Standard Specifications.
Design Form D22	The Traffic Signal Warrant form has been revised consistent with revisions of signal warrants in Subsection 8-02.3 and Figure 8-02.2.
Project Scoping Design Forms	A new “Project Scoping” folder will be added to the design forms containing the Draft Project Scoping Memorandum, Project Scoping Memorandum and all of the checklists contained in the report “Implementation of Recommendations for Project Scoping.”
Microstation Design Form D29	This form was rearranged to have “structural steel posts” and “backing bars” columns listed prior to the “total item 903-12.10” column for structural steel posts.

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